JUL 08 1993

GRIFFIN INTERNATIONAL INC

July 7, 1993

Mr. Michael Young
State of Vermont DEC
Hazardous Materials Management Division
103 South Main St.
Waterbury, VT 05671-0404

RE: A. Brown Inc., Enosburg Falls, VTDEC Site #92-1201

Dear Mr Young,

Griffin International has completed the investigation of subsurface petroleum contamination at the above referenced site. Enclosed is a complete report of our findings, conclusions and recommendations for the site. Please review the report and the associated data and let us know what, if anything, you will require for this project.

Please call if you have any questions. We look forward to your response.

Sincerely,

Peter Hack
Engineer

cc: Doug Pierson
Abraham Brown
Michael Giannaccinni

2B Dorset Lane • Williston, VT 05495 • 802-879-7708

REPORT ON THE INVESTIGATION OF

SUBSURFACE PETROLEUM CONTAMINATION

at

A. BROWN, INC.
ENOSBURG FALLS, VERMONT

PREPARED FOR:

A. Brown Inc. and Mr. Abraham Brown

PREPARED BY:

Griffin International Inc.
2B Dorset Lane
Williston, VT 05495
(802) 879-7708

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INTRODUCTION and SITE HISTORY

This report outlines the investigation of subsurface petroleum contamination at A Brown Inc. in Enosburg Falls, VT. The investigation was conducted by Griffin International Inc. ,(Griffin) for A. Brown, Inc. and Mr. Abraham Brown. This investigation was requested by the State of Vermont Department of Environmental Conservation (VTDEC) due to a release of petroleum at this site in March of 1992. The site (VTDEC Site #92-1201) is owned by Abraham Brown and operated by A. Brown Inc.

The property is located at 158 Main Street and was a bulk fuel storage and distribution facility since about 1920 to 1992. The site had nine aboveground storage tanks, two pump houses, and a gasoline service station with underground storage tanks (UST). These service station UST's were removed in 1982. The fuel storage facility was closed in June 1992 and the above ground storage tanks were removed that summer. Presently, Griffin is aware of two remaining USTs onsite which are not in use.

The property was owned and operated by Mr. and Mrs. Abraham Brown from about 1940 to 1983. Prior to this, A. Browns father operated the business from 1920 to 1940. In 1983, the business, A Brown Inc., was sold to Mike Giannaccini but ownership of the property and storage tanks was retained by the Browns. The property has been leased to A. Brown Inc. since 1983.

Releases of petroleum products have been reported at this site since 1970. Sometime between 1970-1972 several thousand gallons of fuel oil were reported to have spilled on the ground surface when a pipe broke during a truck to tank filling of an above ground storage tank. The product was channeled into pump house #1 where it was allowed to seep into the ground. A few smaller releases were reported during the 1970's. The latest release of petroleum products from this site occurred on March 27, 1992 when an adjacent property owner channeled runoff water which had accumulated on his property, to A. Brown's property. The water flowed from the adjacent property to the north, through the A. Brown property and into the storm drains on another adjacent property. As the water flowed through pump house #1 residual petroleum on the pumphouse floor was washed into the parking areas and into the storm drain. Petroleum sheens were observed at the wastewater treatment facility and in the parking area immediately adjacent to the A. Brown site. Due to the frozen ground, off site migration of sheens did not cause subsurface contamination. This off-site migration has only been reported once, during the 1992 heavy runoff and is the main reason for this particular investigation. There are several other UST's in the area, some of which have been the cause of other releases. A release at Charlie's Quick Stop, located approximately 150 feet north of A. Brown, is currently being remediated under the direction of the VT DEC.

SITE DESCRIPTION

The property is located on Main Street, near the corner of Depot Street in the Village of Enosburg Falls. The area generally consists of a light commercial business district bordered by several residences. There is a gasoline station, Charlie's Quick Stop, across Depot Street to the

north. The area is mostly level with a slight pitch to the south. The land surface at the A. Brown facility is mostly an unpaved gravel driveway with some grass . The surrounding residences have grass and gravel surfaces. Adjoining the property, approximately 100 feet south, is a shared gravel driveway/parking area for a car dealership. This property is where the storm drains are located.

The village is served by municipal water and sewer services and there are no water supply wells in the area. The village water supply comes from a well located about two miles north of the village.

The site has been surveyed to provide accurate locations and elevations of major site features, including new and existing monitoring wells, buildings, and former USTs. This data is plotted on the site map and will be used to study the present extent of contamination and predict the effects on nearby potential receptors.

INVESTIGATIVE PROCEDURES

To further define the degree and extent of contamination at this site, Griffin International performed several investigative activities. The on site investigation included installing four groundwater monitoring wells, hand auguring seven soil borings, digging two test pits and a site survey. Depth to groundwater and floating product were measured in the wells and then water samples were collected for laboratory analysis.

Monitoring Well Installation

On May 21, 1993 Griffin installed four monitoring wells, drilled seven soil borings and dug two test pits on site. The locations of each new exploration are shown on the site map in Appendix A. There is also one preexisting monitoring well (JCOMW1) on an adjacent property. Each location was chosen to provide information on the vertical and horizontal extent of petroleum contamination in the subsurface. Three of the monitoring wells, MW101, MW102 and MW103, were installed using a backhoe. The fourth monitoring well, MW104, was installed using a hand auger. The seven soil borings were drilled using a hand auger and the two test pits were excavated by backhoe. Soils retrieved from the boreholes and excavations were screened for volatile organic compounds (VOCs) with a portable photo-ionization device (PID). Details of these excavations and soil borings are in Appendix B. The soils generally consisted of sand and gravel with little silt and clay.

The monitoring wells are constructed of two inch diameter. 0.010" slotted PVC well screen and riser. In MW101, MW102 and MW103 the annulus between the borehole wall and well screen contains a silica sand pack to filter fine sediments out of the groundwater entering the well. There is no sand pack in MW104. The annulus in each well is sealed at the top of the excavation with bentonite to prevent surface water from directly entering the well. Each riser is completed with a locking cap. The well logs in Appendix B show the construction details, all PID readings, soil types and groundwater elevations for each well.

The soils encountered in each monitoring well excavation (MW101, MW102, MW103, MW104) consisted of dry, brown, medium to coarse sand with little gravel within the first five feet of the ground surface. At an approximate depth of five feet, the soil characteristics changed to a wet, gray, coarse sand. PID readings indicated that VOC concentrations in the surface soils ranged from 6.5 parts per million (ppm) in MW102 to 55 ppm in MW101. Soils from a depth of 1.5' to 6.5' in MW101 contained VOCs concentrations ranging from 38 ppm to 15 ppm. Free product was observed on the water at 8.5' below grade in this well hole.

Soils from MW102 contained up to 25 ppm of VOCs at a depth of 6-8'. Sheens were also observed at this elevation.

Soils retrieved from the excavation for MW103 contained no VOCs at the ground surface but contained VOC concentrations of 11.5 ppm at a depth of five feet.

MW104 is located approximately 100 feet north of the other wells and did not contain any detectable levels of VOCs.

Monitoring well construction details are included on the drilling logs, in Appendix B.

Soil Borings

Seven soil borings (SB101 through SB107) were also completed on May 21. The borings were advanced with a hand auger and soil samples were retrieved and screened for VOCs with the PID. The soils mainly consisted of typical dry, brown, medium sand grading to wet gray coarse sand below five feet in all seven augured holes.

Maximum VOC concentrations in soils retrieved from SB101 and SB102 ranged from 0 to 8 ppm. VOC concentrations in soils from SB103 ranged from 0 to 21 ppm. VOC concentrations from SB104 soils ranged from 3 ppm to 45 ppm. PID screenings of soils from SB105 did not detect any VOC concentrations. SB106 contained 13 ppm and 20 ppm of VOCs at 6.5' and 7' respectively. Generally, VOC concentrations increased with depth of the boring and were at a maximum at or near the water table.

Soil characteristics and VOC concentrations are included on the drilling logs, in Appendix B.

Water Table and Product Measurements

Water table elevations and floating product thicknesses in each monitoring well were measured on May 28, 1993. The water table elevations are based on an arbitrary datum of 100' taken at the top of MW103. Elevations are plotted on the Groundwater Contour Map in Appendix A. The map indicates that the groundwater is flowing to the southeast. The average flow gradient in the vicinity of the monitoring wells is calculated to be 0.05 %. Only 0.13 feet of free product was

detected in MW101 and is recorded on the Liquid Level chart in Appendix D. No free product was detected in the other monitoring wells.

Groundwater Sampling and Analysis

On May 28, 1993 groundwater samples were collected from MW102, MW103, and the existing well, JCO-1. MW101 was not sampled due to the presence of free product, and MW104 was dry. All samples were collected per Griffin sampling protocol and analyzed according to EPA methods 602 and 8100. Method 602 tests for VOCs including benzene, toluene, ethylbenzene and xylene, (BTEX compounds) and methyl tertiary butyl ether (MTBE, a gasoline additive). EPA method 8100 tests for Total Petroleum Hydrocarbons (TPH) and for semi-volatile organic compounds.

The sample collected from JCO-1 did not contain any detectable levels of BTEX or MTBE. The sample collected from MW102 contained 68.2 parts per billion (ppb) of ethylbenzene and 445 ppb of xylenes. The water sample from MW103 contained 2.7 ppb of benzene, 8.3 ppb of ethylbenzene and 30.6 ppb of xylenes. The Vermont Drinking Water Standards are 5 ppb for benzene, 680 ppb for ethylbenzene, 2420 ppb for toluene, 400 ppb for xylenes and 40 ppb for MTBE. Only the xylene concentration in MW102 exceeds the Vermont standards, however, only by 45 ppb.

Presently, Vermont does not have health advisory levels for most semi-volatile organic compounds, or TPH. However, New Jersey Water Clean Up Levels have been used as a reference here in Vermont. Although these levels are a generalization and are not Vermont or New Jersey state policy, they will be used for reference purposes in this report.

EPA Method 8100 laboratory analysis of the water sample from JCO-1 detected the presence of 501 ppm TPH and no volatile organic compounds. The TPH levels found in MW103 and MW102 were 16.3 ppm and 0.88 ppm respectively.

EPA Method 8100 analysis of water collected from MW102 indicated 21.5 ppb of Acenapthene, 64 ppb of Anthracene, 34.7 ppb of Fluorine, 342 ppb of 2-Methylnapthalene, 168 ppb of Naphthalene and 4.8 ppb of Pyrene.

EPA method 8100 laboratory analysis of water collected from MW103 detected a trace of Acenapthene, 10.2 ppb of Anthracene, 5.7 ppb of Fluorene, 23.2 ppb of 2-Methylnapthalene and 11 ppb of naphthalene.

The New Jersey Cleanup Level for Anthracene is 2000 ppb, 300 ppb for fluorene, and 200 ppb for Pyrene. The Vermont Drinking Water Standard for Naphthalene is 300 ppb.

These concentrations appear to be well below acceptable Vermont Drinking Water Standards and the acceptable New Jersey referenced standards.

Quantitative laboratory results are included in Appendix C.

Duplicate, trip blank and equipment blank samples indicate that quality assurance and quality control was maintained during sampling and analysis. The QA/QC results are also included in Appendix C.

RECEPTOR SURVEY

Griffin conducted a visual survey of the site and reviewed previous reports about the site to identify local potential receptors of subsurface petroleum contaminants. Potential receptors identified include nearby buildings, and storm drains. The Missisquoi River does not appear to be a potential receptor based on the distribution of contamination identified during this investigation.

The municipal water supply is not considered a potential receptor because its source, a drilled well, is two miles from the site.

RISK ASSESSMENT

Based on the investigation, it is unlikely that any potential receptors will be adversely effected by the contamination at this site. The Missisquoi River is not at a high risk because of its distance from the site (about 3/4 mile).

CONCLUSIONS

Based on Griffin's investigations including reviewing the site history and past reports, soil borings, groundwater analysis, and site inspections, the following conclusions can be reached:

1) There have been several releases of petroleum products to the subsurface during the past 25 years at this site and on adjacent properties. A several thousand gallon release in the early 1970's was drained into the pump house and seeped into the ground. The two abandoned UST's also may have contributed to subsurface contamination. Most recently, petroleum sheens observed coming from this site during a spring runoff in 1992 were not a contributing factor to subsurface contamination. The possibility exists that off-site contamination has migrated onto the site.

2) The site has not been used for fuel storage since June, 1992. The above ground storage tanks were removed in August, 1992. Two unused UST's remain on site.

3) The soils and groundwater in the immediate vicinity of the pump house show evidence of petroleum contamination.

4) Residual dissolved phase petroleum contamination is present in low levels in the groundwater as indicated by the results of the water sample analysis. However, the BTEX and MTBE concentrations are all below the Vermont Drinking Water Standards except for the concentration of xylenes in MW102. Concentrations of TPH and semi-volatile organic compounds are also well below accepted standards. The low levels of contamination presently detected may indicate that the most volatile compounds have already dissipated over the past twenty years.

5) Free product was only measured in MW101, closest to the pump house. Absorbed state contamination exists in this area as detailed in the well logs and soil boring logs. It appears that these concentrations are highest in the immediate vicinity of the pump house. The groundwater flow gradient is very low which retards the migration of contamination off site.

6) The contamination does not appear to be migrating off site and therefore the local potential receptors listed above are not at a high risk of being contaminated from this site.

7) Most of the existing contamination was likely caused by a release or releases prior to 1980. The site is now out of operation. The potential surface sources have been removed, and therefore, there is no chance of a future surface release.

8) The natural processes of dispersion, dilution, volatilization and biodegradation will result in a reduction of subsurface contamination concentrations over time.

RECOMMENDATIONS

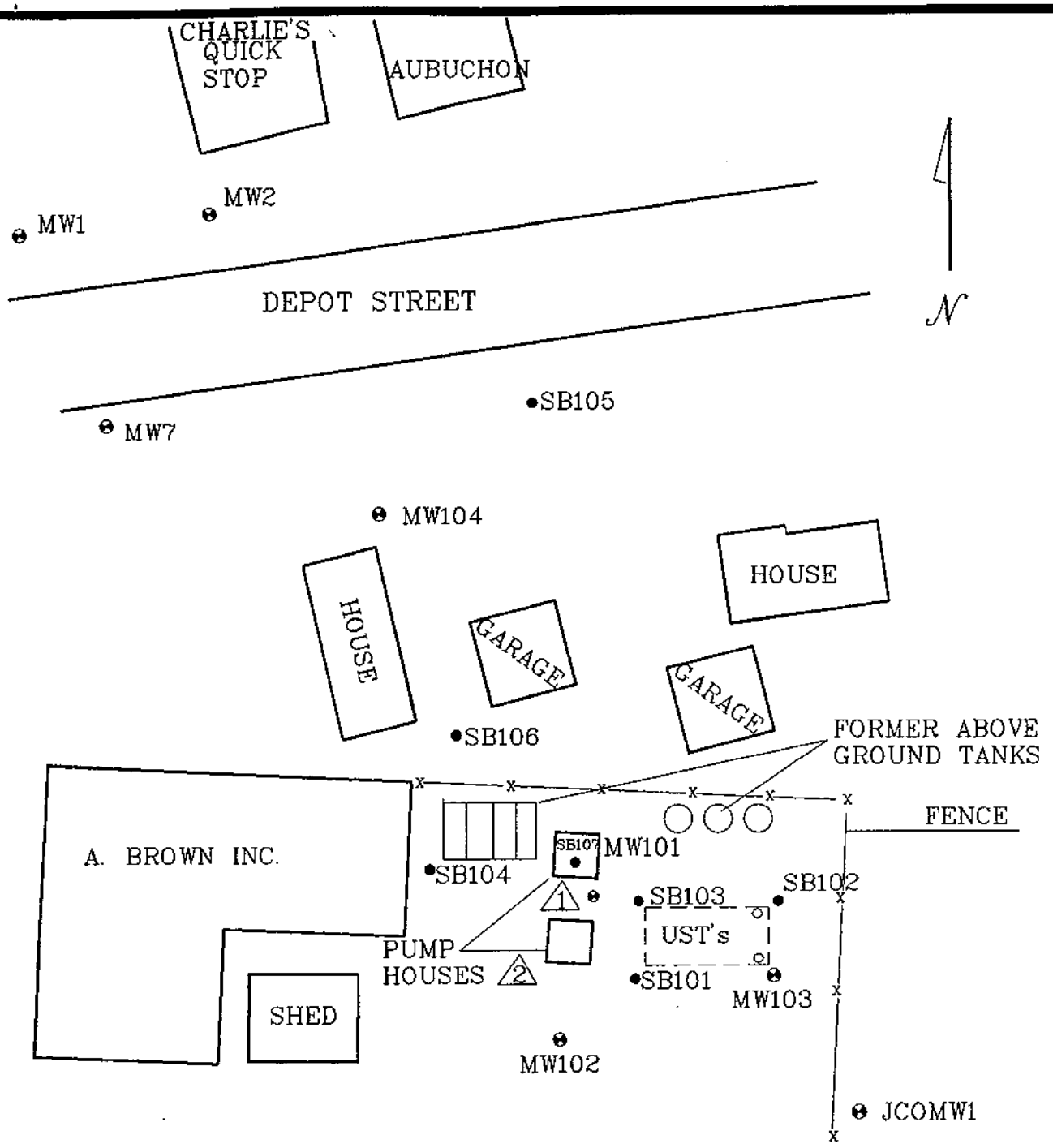
Due to the presence of subsurface petroleum contamination, Griffin recommends limited investigation and monitoring of the site utilizing the existing monitoring wells and data.

For future monitoring activities, we recommend one more sampling and laboratory analysis of groundwater samples collected from this site to take place in June of 1994. If contamination levels do not increase, or if they decrease, we recommend no further investigations at this site.

To prevent the occurrence of petroleum sheens entering local storm drains during periods of high runoff, we recommend the installation of a layer of clean sand or gravel along the pumphouse floor.

APPENDIX A

SITE MAP
GROUNDWATER CONTOUR MAP



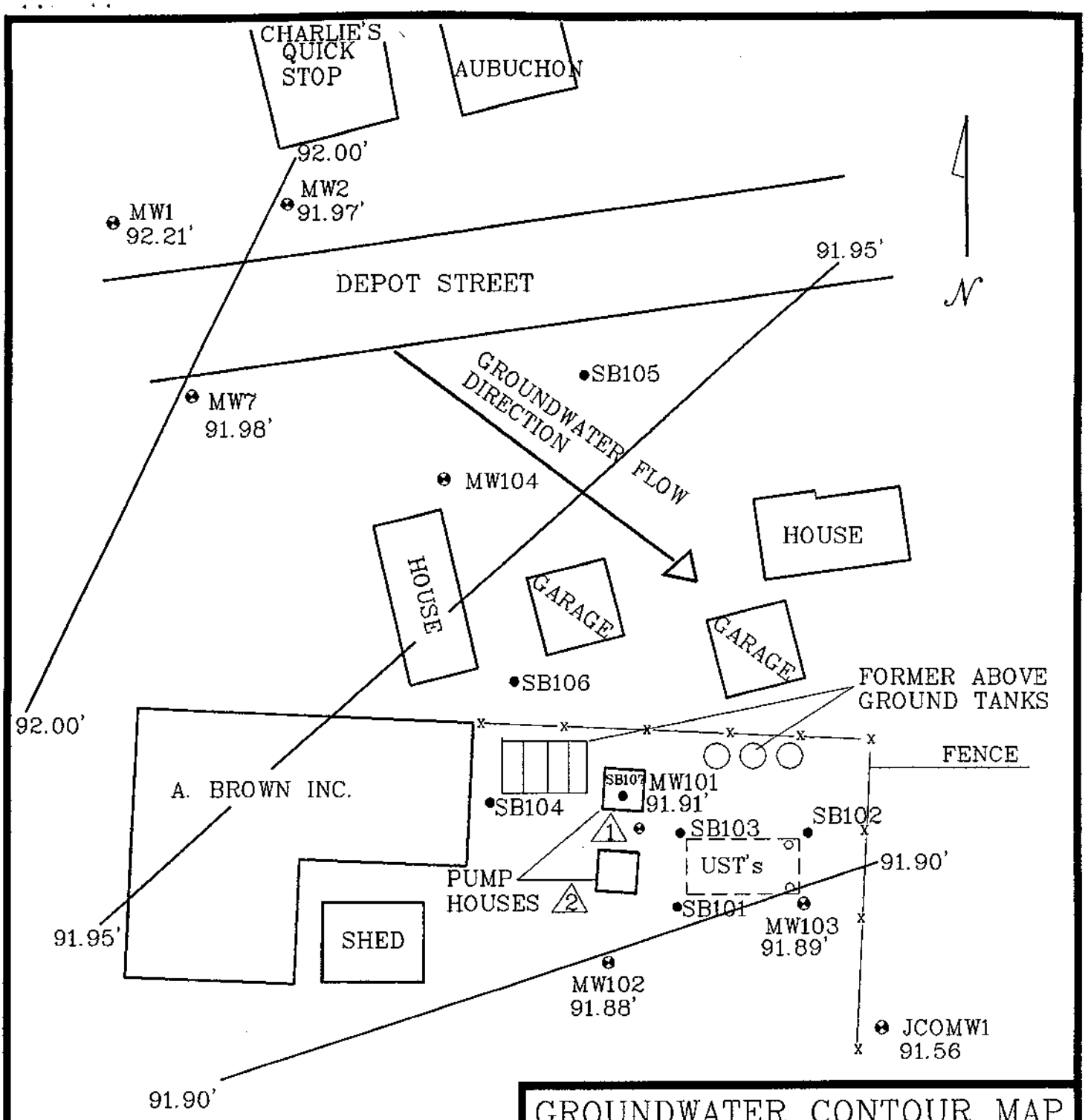
SITE MAP

A. BROWN INC.
ENOSBURG FALLS, VT

- SOIL BORING
- TEST PIT
- MW8 MONITORING WELL WITH I.D.

DRAWN: 6/15/93
GRIFFIN PROJECT #: 4924200
REF: 200SITE

0 25 50 100
SCALE IN FEET



GROUNDWATER CONTOUR MAP

A. BROWN INC.
ENOSBURG FALLS, VT

- • SOIL BORING
- △ TEST PIT
- • MW8 } MONITORING WELL WITH I.D. AND
  92.35' } WATER TABLE ELEVATION IN FEET

DRAWN: 6/15/93
GRIFFIN PROJECT #: 4924200
REF: 200SITE

0 25 50 100
SCALE IN FEET

APPENDIX B

DRILLING AND TEST PIT LOGS

PROJECT A. BROWN INC.

LOCATION ENOSBURG FALLS, VT

DATE DRILLED 5/21/93 TOTAL DEPTH OF HOLE 7.5'

DIAMETER 4"

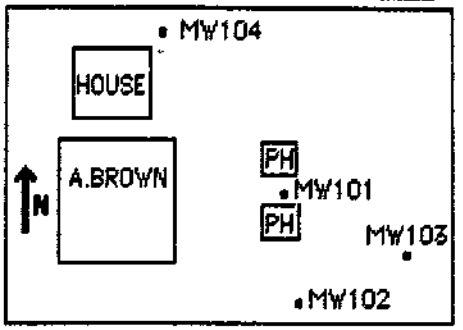
SCREEN DIA. 2" LENGTH 5' SLOT SIZE .010"

CASING DIA. 2" LENGTH 5' TYPE PVC

DRILLING CO. GRIFFIN, DRILLING METHOD HAND AUGER/BACKHOE

DRILLER P. SCUYLER, P. MURRAY LOG BY SAME

WELL NUMBER MW101



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	DEPTH AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–26	BENTONITE; NATIVE FILL; RISER; SAND PACK; WELL SCREEN		0'-1.5' PID=25-55PPM	SILTY SAND AND GRAVEL
			1.5'-4' PID=35PPM	DARK BROWN (STAINED) SAND, GRAVEL AND COBBLES
			4'-6.5' PID=25PPM	LIGHT BROWN TO GRAY SAND
			6.5'-8.5' PID=12-15PPM	WET, GRAY, COARSE SAND FREE PRODUCT OBSERVED
				WATER TABLE
			BOTTOM OF EXPLORATION @ 8.5'	

Griffin International

REF:PAINT50

PROJECT A. BROWN INC.

LOCATION ENOSBURG FALLS, VT

DATE DRILLED 5/21/93 TOTAL DEPTH OF HOLE 8'

DIAMETER 4"

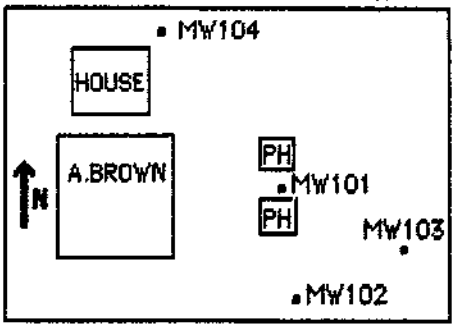
SCREEN DIA. 2" LENGTH 5' SLOT SIZE .010"

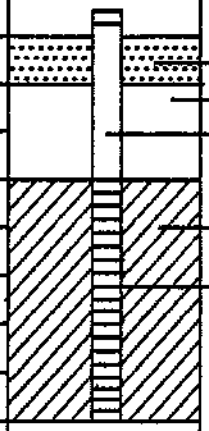
CASING DIA. 2" LENGTH 5' TYPE PVC

DRILLING CO. GRIFFIN .DRILLING METHOD BACKHOE

DRILLER P. SCUYLER, P. MURRAY LOG BY SAME

WELL NUMBER MW102



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	DEPTH AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–8		BENTONITE NATIVE FILL RISER SAND PACK WELL SCREEN	0'-3' PID=6.5PPM	DRY, SAND AND GRAVEL,
			3'-6' PID=30PPM	DRY, LIGHT BROWN, MEDIUM TO COARSE SAND
			6'-8' PID=25PPM	WET, GRAY/BLUE, COARSE SAND, LITTLE GRAVEL , HEAVY SHEENS
8				WATER TABLE ▼
			BOTTOM OF EXPLORATION AT 8'	

9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

Griffin International

REF:PAINT50

PROJECT A. BROWN INC.

LOCATION ENOSBURG FALLS, VT

DATE DRILLED 5/21/93 TOTAL DEPTH OF HOLE 8'

DIAMETER 4"

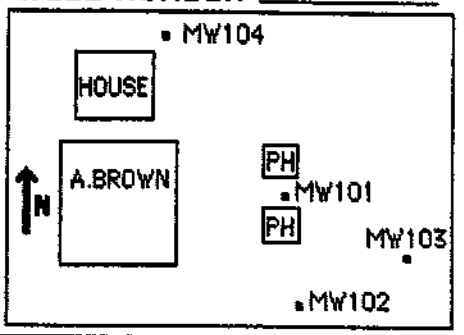
SCREEN DIA. 2" LENGTH 5' SLOT SIZE .010"

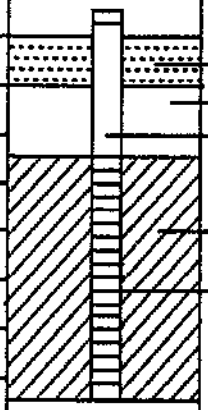
CASING DIA. 2" LENGTH 5' TYPE PVC

DRILLING CO. GRIFFIN DRILLING METHOD BACKHOE

DRILLER P. SCUYLER, P. MURRAY LOG BY SAME

WELL NUMBER MW103



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	DEPTH AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–26		BENTONITE NATIVE FILL RISER SAND PACK WELL SCREEN	0'-2' PID=0PPM 2'-4' PID=0PPM 4'-5' PID=11.5PPM 5'-8' PID=11PPM BOTTOM OF EXPLORATION AT 8'	TOPSOIL DRY, LIGHT BROWN, MEDIUM SAND, LITTLE GRAVEL MOIST TO WET, FINE SAND, SOME SILT WET, GRAY, COARSE SAND, SOME GRAVEL, SHEENS WATER TABLE ▼

Griffin International

REF:PAINT50

PROJECT A. BROWN INC.

LOCATION ENOSBURG FALLS, VT

DATE DRILLED 5/21/93 TOTAL DEPTH OF HOLE 7.25'

DIAMETER 4"

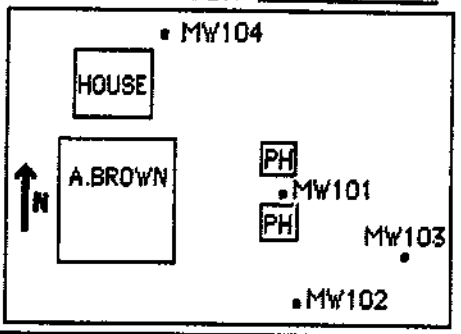
SCREEN DIA. 2" LENGTH 5' SLOT SIZE .010"

CASING DIA. 2" LENGTH 2.25 TYPE PVC

DRILLING CO. GRIFFIN .DRILLING METHOD HAND AUGER

DRILLER P. SCUYLER, P. MURRAY LOG BY SAME

WELL NUMBER MW104



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	DEPTH AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		BENTONITE	0'-2' PID=0PPM	TOPSOIL
1		NATIVE FILL		
2			2'-3' PID=0PPM	TOPSOIL,SAND
3				
4			3'-4' PID=0PPM	DARK TOPSOIL
5		WELL SCREEN	4', PID=0PPM	MOIST,LIGHT BROWN,SAND
6				
7			6.8' PID=0PPM	MOIST, LIGHT BROWN SAND
8			7.25' PID=0PPM	WATER TABLE ▼
9				WET, BROWN, MED TO COARSE SAND
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Griffin International

REF:PAINT50

SOIL BORING LOGS

Depth	Soil Type	PID Reading
	SB101	
0'-18"	Topsoil	0 ppm
18"-3'	Dry, light Brown, med. to coarse Sand, little gravel	0 ppm
3'-5.5'	Same as above	0 ppm
5.5'-5.75'	Wet, Gray, silty Clay	3 ppm
5.75'-6.75'	Wet, Gray, coarse Sand, little silt	8-15 ppm
6.75'-8.5'	Same as above	3-4 ppm
	SB102	
0'-2.5'	Sand	0 ppm
2.5'-3'	Sand	0 ppm
3'	Sand	1 ppm
3.3'-4.5'	Sand	.4-.6 ppm
5'	Sand	3 ppm
6'	Wet Sand	4-5 ppm
7.8'	Wet Sand	3-4 ppm
7.8'-9.2'	Wet Sand	3-6 ppm
	SB103	
0'-3.4'	Sand	0 ppm
3.4'-4.5'	Sand	0 ppm
5'	Sand	8 ppm
5.75'	Wet Sand	10 ppm
6.2'	Wet Sand	21 ppm
7'	Wet Sand	18 ppm
7.5'	Wet Sand	18 ppm
8'	Wet Sand	15 ppm

SOIL BORING LOGS

Depth	Soil Type	PID Readings
	SB104	
3.2'	Sand and Gravel	12 ppm
4.3'	Sand	3 ppm
4.75'-5.5'	Sand	8-12 ppm
6.25'	Sand	45 ppm
6.8'	Wet Sand	35 ppm
7.2'	Wet Sand	20 ppm
9'	Wet Sand	10 ppm
	SB105	
0'-2'	Topsoil	0 ppm
2'-3'	Moist, orange Brown, Silt, some very fine sand	0 ppm
3'-3.9'	Moist, light Brown, very fine Sand little silt	0 ppm
3.9'-6'	Moist, light Brown, med. to coarse Sand	0 ppm
6'-8'	Wet, med. to coarse Sand, little gravel	0 ppm
	SB106	
0'-6"	dark Brown, silty Sand	0 ppm
6"-2.5'	dark Brown, silty Sand	0 ppm
2.5'-3.5'	reddish orange, Brown, fine Sand and Silt	0 ppm
3.5'-5.7'	Moist, light Brown, Medium Sand	0 ppm
5.7'-6.5'	Moist, light Brown, med. to coarse Sand, little gravel	0 ppm
6.5'-7'	Wet coarse Sand, some gravel, Petroleum odor	13-20 ppm

SOIL BORING LOGS

Depth	Soil Type	PID Reading
	SB107	
0'-6"	Gravel fill	
6"-1'	black, oil stained	70-80 ppm
1'-28"	light Brown, very fine Sand no stains	90 ppm
28"	dark Brown/Rust, fine Sand	95 ppm
39"	light Brown and gray, fine Sand	90 ppm
50"	Wet, gray, med. to coarse Sand	80 ppm
56"		65 ppm
	Backhoe Test Pit #1	
0'-2'	Dry, stained, sand, gravel, cobbles	20 ppm
2'-5.5'	Dry, light brown, med. Sand, little gravel, no stains	24 ppm
5.5'-8'	Wet, gray, coarse Sand sheens on watertable	55 ppm
	Backhoe Test Pit #2	
0'-1'	Sand and Gravel, no stains	0 ppm
1'-3'	dark Brown, med. to coarse sand and Gravel	25 ppm
3'-4.5'	Dry, light Brown, med. Sand little gravel	4 ppm
4.5'-6'	Moist to Wet, light Brown to gray- blue, med. to coarse sand and gravel	100 ppm
6'-8'	Wet, gray-blue, coarse Sand, sheens on watertable	60 ppm

APPENDIX C

LABORATORY RESULTS

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

RECEIVED JUN 17 1993

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: A. Brown
DATE REPORTED: June 16, 1993
DATE SAMPLED: May 28, 1993

PROJECT CODE: GIAB1776
REF. #: 46,893 - 46,898

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: JCO-1
REF. #: 46,893
TIME SAMPLED: 10:27

Parameter	Quantitation Limit (ug/L)[1]	Concentration (ug/L)
Acenaphthene	10	ND[2]
Acenaphthylene	10	ND
Anthracene	10	ND
Benzo(a)anthracene	10	ND
Benzo(b,k)fluoranthene	10	ND
Benzo(a)pyrene	10	ND
Benzo(ghi)perylene	10	ND
Chrysene	10	ND
Dibenzo(a,h)anthracene	10	ND
Dibenz(a,j)acridine	10	ND
7,12-Dimethylbenz(a)anthracene	10	ND
Fluoranthene	10	ND
Fluorene	10	ND
Indeno(1,2,3-cd)pyrene	10	ND
3-Methylcholanthrene	10	ND
2-Methylnaphthalene	10	ND
Naphthalene	10	ND
Phenanthrene	10	ND
Pyrene	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 10

Analytical Surrogate Recovery:

Nitrobenzene-d 5:	LS[3]
2-Fluorobiphenyl:	35.%
Terphenyl-d 14:	87.%

NOTES:

1 Detection limit raised due to presence of significant levels of non-target organic contaminants which restricts the detection range of target analytes.
2 None detected
3 Low surrogate recovery attributed to matrix interferences

ENDYNE, INC.

Laboratory Services

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FAX 879-7103

LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: MW-103
REF. #: 46,894
TIME SAMPLED: 10:43

Parameter	Quantitation Limit (ug/L)[1]	Concentration (ug/L)
Acenaphthene	5	TBQ[2]
Acenaphthylene	5	ND[3]
Anthracene	5	10.2
Benzo(a)anthracene	5	ND
Benzo(b,k)fluoranthene	5	ND
Benzo(a)pyrene	5	ND
Benzo(ghi)perylene	5	ND
Chrysene	5	ND
Dibenzo(a,h)anthracene	5	ND
Dibenz(a,j)acridine	5	ND
7,12-Dimethylbenz(a)anthracene	5	ND
Fluoranthene	5	ND
Fluorene	5	5.7
Indeno(1,2,3-cd)pyrene	5	ND
3-Methylcholanthrene	5	ND
2-Methylnaphthalene	5	23.2
Naphthalene	5	11.0
Phenanthrene	5	ND
Pyrene	5	ND

NUMBER OF UNIDENTIFIED PEAKS: >25
Analytical Surrogate Recovery:
Nitrobenzene-d 5: LS[4]
2-Fluorobiphenyl: 50.%
Terphenyl-d 14: 67.%

NOTES:

1 Detection limit raised due to presence of significant levels of non-target organic contaminants which restricts the detection range of target analytes.
2 Trace below quantitation limits
3 None detected
4 Low surrogate recovery attributed to matrix interferences.

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LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: MW-102
REF. #: 46,895
TIME SAMPLED: 10:25

Parameter	Quantitation Limit (ug/L)	Concentration (ug/L)
Acenaphthene	2	21.5
Acenaphthylene	2	ND[1]
Anthracene	2	64.0
Benzo(a)anthracene	2	ND
Benzo(b,k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
Chrysene	2	ND
Dibenzo(a,h)anthracene	2	ND
Dibenz(a,j)acridine	2	ND
7,12-Dimethylbenz(a)anthracene	2	ND
Fluoranthene	2	ND
Fluorene	2	34.7
Indeno(1,2,3-cd)pyrene	2	ND
3-Methylcholanthrene	2	ND
2-Methylnaphthalene	2	342.
Naphthalene	2	168.
Phenanthrene	2	ND
Pyrene	2	4.8

NUMBER OF UNIDENTIFIED PEAKS: >25
Analytical Surrogate Recovery:
- Nitrobenzene-d 5: 69.%
- 2-Fluorobiphenyl: 104.%
- Terphenyl-d 14: 84.%

NOTES:
1 None detected

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LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: Trip Blank
REF. #: 46,896
TIME SAMPLED: 10:00

Parameter	Quantitation Limit (ug/L)	Concentration (ug/L)
Acenaphthene	2	ND[1]
Acenaphthylene	2	ND
Anthracene	2	ND
Benzo(a)anthracene	2	ND
Benzo(b,k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
Chrysene	2	ND
Dibenzo(a,h)anthracene	2	ND
Dibenz(a,j)acridine	2	ND
7,12-Dimethylbenz(a)anthracene	2	ND
Fluoranthene	2	ND
Fluorene	2	ND
Indeno(1,2,3-cd)pyrene	2	ND
3-Methylcholanthrene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
Phenanthrene	2	ND
Pyrene	2	ND

NUMBER OF UNIDENTIFIED PEAKS: 1

Analytical Surrogate Recovery:

Nitrobenzene-d 5:	49.%
2-Fluorobiphenyl:	57.%
Terphenyl-d 14:	98.%

NOTES:

1 None detected

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LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: Duplicate
REF. #: 46,897
TIME SAMPLED: 10:25

Parameter	Quantitation Limit (ug/L)	Concentration (ug/L)
Acenaphthene	2	14.5
Acenaphthylene	2	ND[1]
Anthracene	2	46.5
Benzo(a)anthracene	2	ND
Benzo(b,k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
Chrysene	2	ND
Dibenzo(a,h)anthracene	2	ND
Dibenz(a,j)acridine	2	ND
7,12-Dimethylbenz(a)anthracene	2	ND
Fluoranthene	2	ND
Fluorene	2	25.0
Indeno(1,2,3-cd)pyrene	2	ND
3-Methylcholanthrene	2	ND
2-Methylnaphthalene	2	268.
Naphthalene	2	138.
Phenanthrene	2	ND
Pyrene	2	2.8

NUMBER OF UNIDENTIFIED PEAKS: >25
Analytical Surrogate Recovery:
Nitrobenzene-d 5: 53.%
2-Fluorobiphenyl: 65.%
Terphenyl-d 14: 79.%

NOTES:
1 None detected

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LABORATORY REPORT
EPA METHOD 8100

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
SAMPLER: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993

PROJECT CODE: GIAB1776
ANALYSIS DATE: June 10, 1993
STATION: Equip Blank
REF. #: 46,898
TIME SAMPLED: 10:45

Parameter	Quantitation Limit (ug/L)	Concentration (ug/L)
Acenaphthene	2	ND[1]
Acenaphthylene	2	ND
Anthracene	2	ND
Benzo(a)anthracene	2	ND
Benzo(b,k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
Chrysene	2	ND
Dibenzo(a,h)anthracene	2	ND
Dibenz(a,j)acridine	2	ND
7,12-Dimethylbenz(a)anthracene	2	ND
Fluoranthene	2	ND
Fluorene	2	ND
Indeno(1,2,3-cd)pyrene	2	ND
3-Methylcholanthrene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
Phenanthrene	2	ND
Pyrene	2	ND

NUMBER OF UNIDENTIFIED PEAKS: 1

Analytical Surrogate Recovery:

Nitrobenzene-d 5:	45.%
2-Fluorobiphenyl:	36.%
Terphenyl-d 14:	99.%

NOTES:

1 None detected

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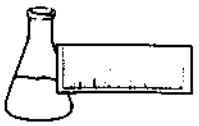
EPA METHOD 8100 (WATER) LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 16, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1776
REF.#: 46893
STATION: JCO-1
TIME SAMPLED: 10:27
SAMPLER: Hack/Bernhardt

Parameter	Sample(ug/L)	Spike(ug/L)	Dup 1(ug/L)	Dup 2(ug/L)	Avg % Recovery
Acenaphthene	0	40	31.4	31.8	80.
Acenaphthylene	0	40	25.2	27.8	66.
Anthracene	0	40	46.0	44.2	112.
Benzo(a)anthracene	0	40	44.2	50.4	118.
Benzo(b,k)fluoranthene	0	80	63.0	62.8	78.
Benzo(g,h,i)perylene	0	40	31.0	35.2	82.
Benzo(a)pyrene	0	40	23.8	27.0	64.
Chrysene	0	40	15.8	18.8	44.
Dibenzo(a,h)anthracene	0	40	24.4	29.4	68.
Fluoranthene	0	40	42.8	36.4	100.
Fluorene	0	40	32.0	33.0	82.
Indeno(1,2,3-cd)pyrene	0	40	25.6	28.2	68.
Naphthalene	0	40	24.4	24.0	60.
Phenanthrene	0	40	29.6	29.4	74.
Pyrene	0	40	44.6	38.4	104.



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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: A. Brown
DATE REPORTED: June 16, 1993
DATE SAMPLED: May 28, 1993
REVISED REPORT: June 21, 1993

PROJECT CODE: GIAB1776
REF. #: 46,893 - 46,898

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

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LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8100

DATE: June 16, 1993
CLIENT: Griffin International
PROJECT NAME: A. Brown
PROJECT CODE: GIAB1776
COLLECTED BY: Hack/Bernhardt
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
REVISED REPORT: June 21, 1993

Parameter	Sample ID	Concentration (mg/L)
46,893	JCO-1; 10:27	501.
46,894	MW-103; 10:43	16.3
46,895	MW-102; 10:25	0.88
46,896	Trip Blank; 10:00	ND[2]
46,897	Duplicate; 10:25	0.76
46,898	Equip Blk; 10:45	ND

Notes:

1 Method detection limit is 0.1 mg/L.
2 None Detected

RECEIVED JUN 2 2 1993

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CHAIN-OF-CUSTODY RECORD

006344

Project Name: A Brown Site Location: Enosburg	Reporting Address: 28 Dorset Lane
Endyne Project Number: GIABINN6	Company: Griffin Int'l. Contact Name/Phone #: P. Murray 879 7708
Billing Address: same	Sampler Name: Pete Hack / Jack Bernhardt Phone #:

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
	JCO-1 J	H_2O			5/28/93						
	MW 103 J	)			10:25	2	40 ml		20	HCl	
	MW102 P				10:41	2	40 ml		20	HCl	
	Trip Blank P				10:~~30~~	2	40 ml		20	HCl	
	Duplicate P				10:00	2	40		20	HCl	
	Equip Blank P				10:30	2	40		20	HCl	
46893	JCO-1				10:45		40		20	HCl	
46894	MW103				10:27		1 l		8100 + TPH	N/A	
46895	MW102				10:43		1 l		8100 + TPH	N/A	
46896	Trip				10:25		1 l		8100 + TPH	N/A	
46897	Dupl.				10:00		1 l		8100 + TPH	N/A	
46898	Equip.				10:25		1 l		8100 + TPH	N/A	
					10:45		1 l		8100 + TPH	N/A	

Relinquished by: Signature [signature]	Received by: Signature Jim Kelty	Date/Time 5/28/93 2:15 pm
Relinquished by: Signature	Received by: Signature	Date/Time

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602 (circled 602)	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993

PROJECT CODE: GIAB1775
REF.#: 46,887 - 46,892

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,887
STATION: JCO-1
TIME SAMPLED: 10:25
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 96%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,888
STATION: MW103
TIME SAMPLED: 10:41
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	2.7
Chlorobenzene	1	ND[1]
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	8.3
Toluene	1	ND
Xylenes	1	30.6
MTBE	5	ND

Bromobenzene Surrogate Recovery: 90%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,889
STATION: MW102
TIME SAMPLED: 10:30
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	10	ND[2]
Chlorobenzene	10	ND
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	10	68.2
Toluene	10	ND
Xylenes	10	445.
MTBE	50	ND

Bromobenzene Surrogate Recovery: 98%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.

2 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,890
STATION: Trip Blank
TIME SAMPLED: 10:00
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 96%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:
1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,891
STATION: Duplicate
TIME SAMPLED: 10:30
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	10	ND[2]
Chlorobenzene	10	ND
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	10	65.9
Toluene	10	ND
Xylenes	10	438.
MTBE	50	ND

Bromobenzene Surrogate Recovery: 105%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.

2 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,892
STATION: Equip Blank
TIME SAMPLED: 10:45
SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 94%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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EPA METHOD 602 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International
PROJECT NAME: A. Brown
REPORT DATE: June 15, 1993
DATE SAMPLED: May 28, 1993
DATE RECEIVED: May 28, 1993
ANALYSIS DATE: June 10, 1993

PROJECT CODE: GIAB1775
REF.#: 46,890
STATION: Trip Blank
TIME SAMPLED: 10:00
SAMPLER: P. Hack

Parameter	Sample(ug/L)	Spike(ug/L)	Dup1(ug/L	Dup2(ug/L)	Avg % Rec
Benzene	ND[1]	10	11.1	11.3	112%
Toluene	ND	10	11.8	11.9	119%
Ethylbenzene	ND	10	11.2	11.5	114%
Xylenes	ND	30	32.9	33.6	111%

NOTES:
1 None detected

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46898
46887 ~~46809~~

CHAIN-OF-CUSTODY RECORD

006344

Project Name: A Brown Site Location: Enosburg	Reporting Address: 2 B Dorset Lane	Billing Address: same
Endyne Project Number: GTABMIS	Company: Griffin Int'l. Contact Name/Phone #: P. Murray 879 7708	Sampler Name: Pete Hock / Jack Barnhardt Phone #:

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time 5/28/93	Sample Containers No.	Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
46887	JCO-1 J	H_2O			10:25	2	40 ml		20	HCl	
46888	MW 103 J				10:41	2	40 ml		20	HCl	
46889	MW 102 P				10:~~30~~	2	40 ml		20	HCl	
46890	Trip Blank P				10:00	2	40		20	HCl	
46891	Duplicate P				10:30	2	40		20	HCl	
46892	Equip Blank P				10:45		40		20	HCl	
	JCO-1				10:27		1 l		8100 + TPH	n/A	
	MW 103				10:43		1 l		8100 + TPH	n/A	
	MW 102				10:25		1 l		8100 + TPH	n/A	
	Trip				10:00		1 l		8100 + TPH	n/A	
	Dupl.				10:25		1 l		8100 + TPH	n/A	
	Equip.				10:45		1 l		8100 + TPH	n/A	

Relinquished by: Signature John C B[illegible]	Received by: Signature Tim Kelty	Date/Time 5/28/93 2:15 PM
Relinquished by: Signature	Received by: Signature	Date/Time

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602 (circled)	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

APPENDIX D

WATER LEVEL DATA

LIQUID LEVEL MONITORING DATA

PROJECT #: 4924200
PROJECT NAME: A. Brown
LOCATION: Enosburg, VT

DATE: 5-28-93
SAMPLER: G. Boorhaal, P. Hack
INSTRUMENTATION USED: Keck IP

WELL ID	WELL DEPTH	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PRODUCT THICKNESS	SPECIFIC GRAVITY OF PRODUCT	HYDRO EQUIVILENT	CORRECTED DEPTH TO WATER	CORRECTED WATER TABLE ELEVATION	TIME
MW-7		98.26	—	6.28					91.98	
MW-1		98.42	—	6.21					92.21	
MW-2		97.95	—	5.98					91.97	
RO-1		98.78	—	7.22					91.56	10:25
MW-107		99.56	—	7.68					91.88	10:25
MW-103		100 (assume)	—	8.11					91.89	10:41
MW-101		99.8	7.86	7.99	.13'	.8	.10	7.89	91.91	

COMMENTS: